

## REMARKS

Responsive to the Office Action mailed on November 2, 2006 in the above-referenced application, Applicant respectfully requests amendment of the above-identified application in the manner identified above and that the patent be granted in view of the arguments presented. No new matter has been added by this amendment.

### Present Status of Application

Claims 1-3, 5-10, 12-15 and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ozawa et al (US 2004/0165130, hereinafter "Ozawa"). Claims 4, 11, 16, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa. Claims 22-29 are withdrawn from consideration.

In this paper, claims 1, 6, 12, 13 and 18 are amended as discussed in further detail below. Support for these amendments can be found at least on page 6, lines 7-9 and Figs. 2-4B of the application. Claims 22-29 are canceled. New dependent claims 30-37 are added. Support for the new claims can be found at least on pages 5-8 of the application and Figs. 2-4B of the application. Thus, on entry of this amendment, claims 1-21 and 30-37 are pending in the application.

Reconsideration of this application is respectfully requested in light of the amendments and the remarks contained below.

### Rejections Under 35 U.S.C. 102(e)

Claims 1-3, 5-10, 12-15 and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ozawa. To the extent that the grounds of the rejections may be applied to the claims now pending in this application, they are respectfully traversed.

The rejection of a claim for anticipation under 35 U.S.C. §102 requires that the prior art reference include every element of the rejected claim. Furthermore, as stated by the Federal Circuit, the prior art reference must disclose each element of the claimed invention "arranged as

in the claim." *Lindermann Maschinenfabrik GMBH v. American Hoist and Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984).

Claim 1, 6, 12, 13 and 18 have been amended to more clearly identify a novel feature of the claimed invention. Specifically, claims 1, 6 and 12 have been amended to recite a color filter over the substrate, including at least one color pigment having a first portion of the color pigment covering the insulating layer at the selected regions and a second portion of the color pigment on the substrate, wherein a thickness of the first portion of the color pigment is thinner than that of the second portion of the color pigment. Similarly, claims 13 and 18 have been amended to recite a step of forming a color filter over the first substrate, including at least one color pigment having a first portion of the color pigment covering the insulating layer at the selected regions and a second portion of the color pigment on the first substrate, wherein a thickness of the first portion of the color pigment is thinner than that of the second portion of the color pigment.

Ozawa teaches a transfective liquid crystal device comprising a substrate 10, a light-reflecting layer 4, color filters 81 and 82, and thickness-adjusting layer 6. See paragraphs 0070-0078 and Fig. 2 of Ozawa. In Ozawa, the reflective-display color filter 81 and transmissive-display color filter 82 are separately formed on reflective display region 31 (i.e., on reflective layer 4) and on the transmissive display region 32. More particularly, in paragraph 0076, Ozawa teaches:

In the first substrate 10, the reflective display region 31 and the transmissive display region 32 are provided with a reflective-display color filter 81 and a transmissive-display color filter 82, respectively, so that color images can be displayed. The transmissive-display color-filter 82 contains, for example, a large amount of pigment, and it is, thus, colored more strongly than the reflective-display color filter 81. The edges of the reflective-display color filter 81 are aligned with the edges of the reflecting layer 4.

Also see paragraph 0103. Thus, in Ozawa the pigment varies between color filters 81 and 82. Therefore, the combined structure of color filters 81 and 82 cannot be considered "one color pigment" having "a first portion of the color pigment" (i.e., 81) and "a second portion of the color

pigment" (i.e., 82). Furthermore, taken individually, neither of color filters 81 and 82 comprises a first portion and second portion respectively disposed on selected regions at the alleged "insulating layer" 4 and substrate, wherein the first and second portion have different thicknesses. To the contrary, each of color filters 81 and 82 is uniform in thickness. Thus, Ozama fails to teach or suggest the claimed arrangement of a color filter over the substrate, including at least one color pigment having a first portion of the color pigment covering the insulating layer at the selected regions and a second portion of the color pigment on the substrate, wherein a thickness of the first portion of the color pigment is thinner than that of the second portion of the color pigment.

For at least the reasons described above, it is Applicant's belief that the cited reference fails to teach or suggest all the limitations of claims 1, 6, 12, 13 and 18. Applicant therefore respectfully requests that the rejection of claims 1, 6, 12, 13 and 18 be withdrawn and the claims passed to issue. Insofar as the remaining claims depend from one of claims 1, 6, 12, 13 and 18 either directly or indirectly, and therefore incorporate all of the limitations of one of claims 1, 6, 12, 13 and 18, it is Applicant's belief that these claims are also in condition for allowance.

#### Rejections Under 35 U.S.C. 103(a)

Claims 4, 11, 16, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa. As noted above, it is Applicant's belief that claims 4, 11, 16, and 21 are allowable by virtue of their dependency from claims 1, 6, 13 and 18, respectively. In addition, the claims are believed to be allowable for the independent and alternative reasons discussed below.

Claims 4, 11, 16 and 21 recite that the insulating layer extends beyond the selected regions on the substrate, and the selected regions generally define reflective regions on the substrate and the regions outside the selected regions generally define transmissive regions on the substrate.

In the rejections, the Examiner argues that this is an obvious variation of Ozawa. Applicant respectfully disagrees.

MPEP 2142 reads in part:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Furthermore, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

The alleged "insulating layer" 4 in Ozawa identified by the Examiner is in fact a reflecting layer. See, for example, paragraphs 0086 and 0104 of Ozawa ("... a reflective metallic layer, such as an aluminum layer of a silver alloy layer..."). If such a reflective metallic layer were extended beyond the selected regions on the substrate (i.e., the reflective regions), the reflective metallic layer would cover the substrate in regions outside the selected regions (i.e., the transmissive regions).

However, there would be no motivation to extend a reflective layer 4 into transmissive regions in Ozawa's transflective liquid crystal device, insofar as such a modification would produce an undesirable result (i.e., reflect light in the transmissive regions), if not render the device inoperable.

For at least these reasons, it is Applicant's belief that a *prima facie* case of obviousness over Ozawa is not established relative to claims 4, 11, 16 and 21.

New Claims 30-37

As noted above, new claims 30-37 are believed to be in condition for allowance based on their dependency on claim 6. In, addition, claims 30-37 are believed to be allowable for the independent and alternative reasons discussed below.

New claim 30 depends from claim 11 and further recites a reflective layer formed on the insulating layer in the reflective regions, wherein the color filter formed on the insulating layer and the reflective layer; a pixel electrode formed on the color filter; a second substrate opposite the first substrate; a transparent electrode formed on an inner side of the second substrate; and the liquid crystal interposed between the first substrate and the second substrate. Applicant submits that Ozawa fails to teach these features.

Claims 31 and 36 depend from claims 30 and 10, respectively, and recite that the ratio of the color filter thickness in the reflective region to that in the transmissive region is 1/1.2 to 1/2. As discussed above, it is Applicant's belief that Ozawa fails to teach a color filter with different thicknesses in the reflective and transmissive regions. In addition, it is Applicant's belief that the recited ratio is not taught or suggested by Ozawa. Namely, the alleged "insulating layer" 4 is described as a metallic layer or film. There is no teaching or suggestion in Ozawa that this layer is used as a thickness-adjusting layer for the color filter 81. Furthermore, Ozawa expressly teaches that color filter 82 is colored more strongly than color filter 81, such that transmitted light can be colored as strongly as reflected light. See, for example, paragraph 0084. Finally, it is noted that if reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurement of the drawing features are of little value. See *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000) (The disclosure gave no indication that the drawings were drawn to scale. "[I]t is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue."). See MPEP 2125. For at least these reasons, Applicant submits that Ozawa fails to teach the ratio of the color filter thickness in the reflective region to that in the transmissive region is 1/1.2 to 1/2. Furthermore, there would be no reason to modify Ozawa to teach this

ratio, insofar as Ozawa expressly teaches that color filter 82 is colored more strongly than color filter 81 to achieve parity in coloration between transmitted light and the reflected light.

Claim 32 recites that a surface of the color filter is higher in the reflective region than in the transmissive region. For the same reasons discussed in connection with claims 1, 6, 12, 13 and 18, Applicant submits that Ozawa fails to teach or suggest this limitation.

Claim 33 a surface of the color filter is substantially the same height in the reflective region and in the transmissive region. For the same reasons discussed in connection with claims 1, 6, 12, 13 and 18, Applicant submits that Ozawa fails to teach or suggest this limitation.

Claim 34 recites the insulating layer is thinner in the transmissive region than in the reflective region. Claims 35 and 37 depend from claims 30 and 11, respectively, and recite that the ratio of the insulating layer thickness in the reflective region to that in the transmissive region is 2/1 to 10/1. For the same reasons discussed in connection with claims 4, 11, 16 and 21, Applicant submits that Ozawa fails to teach or suggest an insulating layer in transmissive region, let alone the relative thickness thereof.

#### Examiner Interview

A telephonic interview was conducted between the Examiner and the undersigned on January 26, 2007. Fig. 2 of Ozawa was discussed in relation to the claims and disclosure of the present application. Applicant noted that color filters 81 and 82 in Ozawa contain different amounts of pigment. The Examiner agreed to reconsider any amended claims presented in view of Ozawa. No other agreement was reached.

#### Conclusion

The Applicant believes that the application is now in condition for allowance and respectfully requests so. The Commissioner is authorized to charge any additional fees that may be required or credit overpayment to Deposit Account No. **502447**. In particular, if this response is not timely filed, then the commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 C.F.R. § 1.136(a) requesting an extension of time of

Appl. No. 10/814,393

Examiner: Ton, Minh Toan, Art Unit 2871

In response to the Office Action dated November 2, 2006

Date: February 2, 2007  
Attorney Docket No. 10113991

the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to Deposit Account No. **502447**.

Respectfully submitted,



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